



(11) **EP 2 241 257 A3**

(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:  
**29.06.2011 Bulletin 2011/26**

(51) Int Cl.:  
**A61B 8/08 (2006.01)** **A61B 10/02 (2006.01)**  
**A61B 10/00 (2006.01)**

(43) Date of publication A2:  
**20.10.2010 Bulletin 2010/42**

(21) Application number: **10157873.0**

(22) Date of filing: **26.03.2010**

(84) Designated Contracting States:  
**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR**  
Designated Extension States:  
**AL BA ME RS**

- **Hyun, Dong Gyu**  
**Gyeonggi-do (KR)**
- **Kim, Chul An**  
**Gyeonggi-do (KR)**
- **Park, Hee Jung**  
**Seoul, 135-280 (KR)**

(30) Priority: **14.04.2009 KR 20090032266**

(74) Representative: **Schmid, Wolfgang**  
**Lorenz & Kollegen**  
**Patentanwälte Partnerschaftsgesellschaft**  
**Alte Ulmer Strasse 2**  
**89522 Heidenheim (DE)**

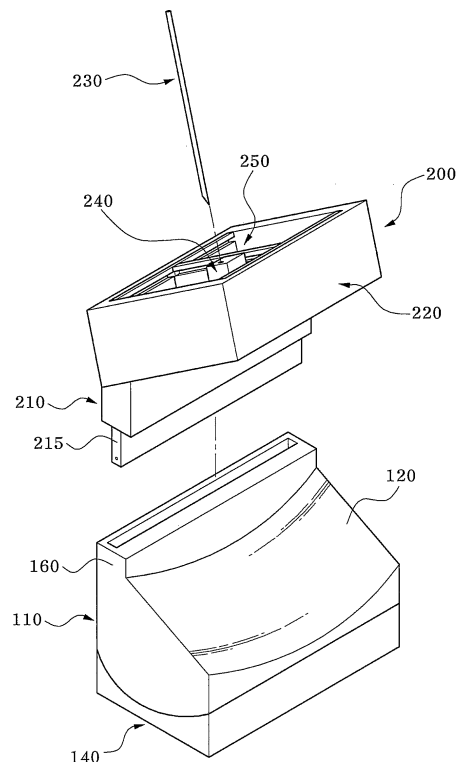
(71) Applicant: **Medison Co., Ltd.**  
**Kangwon-do 250-870 (KR)**

(72) Inventors:  
• **Kim, Seong Rae**  
**Gyeonggi-do (KR)**

(54) **Integrated-type ultrasonic diagnostic apparatus with separable biopsy device**

(57) A separable biopsy device integrated-type ultrasonic diagnostic apparatus is disclosed. The separable biopsy device integrated-type ultrasonic diagnostic apparatus includes an ultrasonic diagnostic apparatus (100) exposing one side of a diagnosis target (10) and examining the diagnosis target (10) at the other side of the diagnosis target (10); and a biopsy device (200) located at the exposed side of the diagnosis target (10) and detachably coupled to the ultrasonic diagnostic apparatus (100). The apparatus can perform ultrasound diagnosis and biopsy together, thereby providing the convenience of allowing the ultrasound diagnosis and the biopsy to be performed with a single apparatus, and can perform a biopsy based on ultrasound images obtained using the ultrasonic diagnostic apparatus (100) without changing a position of a diagnosis target (10), enabling precise determination as to a position to be biopsied, that is, a target position into which the needle of the biopsy device (200) will be inserted.

Fig. 9



**EP 2 241 257 A3**



EUROPEAN SEARCH REPORT

Application Number  
EP 10 15 7873

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	WO 96/32066 A1 (NEOVISION CORP [US]) 17 October 1996 (1996-10-17)	1-6	INV. A61B8/08 A61B10/02 A61B10/00
Y	* figures 1-5 * * page 9, lines 13-20 * * page 11, lines 10-31 * * page 12, line 3 - page 13, line 12 * * page 13, line 26 - page 14, line 15 * * page 15, line 25 - page 16, line 29 * * page 17, line 1 - page 18, line 2 *	7-12	
X	WO 98/02095 A1 (NEOVISION CORP [US]) 22 January 1998 (1998-01-22)	1-4,7-9, 12	
Y	* figures 5B, 6-8 * * page 18, line 31 - page 19, line 8 * * page 19, line 20 - page 22, line 34 * * page 7, line 28 - page 8 * * page 14, lines 28-30 *	5,6,10, 11	
Y	WO 83/02053 A1 (COMMW OF AUSTRALIA [AU]) 23 June 1983 (1983-06-23)	7,8, 10-12	
	* page 4, lines 4-10 * * page 6, lines 30-35 * * page 7, lines 4-7 * * page 7, lines 15-36 * * figures 1-3 *		
X	WO 2007/130526 A2 (SYSTEMS INC U [US]; WANG SHIH-PING [US]; SUMMERS DOUGLAS G [US]; ANDER) 15 November 2007 (2007-11-15)	1-4	TECHNICAL FIELDS SEARCHED (IPC)  A61B
Y	* figures 11,15 * * paragraphs [0015], [0050], [0066], [0067] *	9	
Y	US 2008/004526 A1 (GROSS JACOB [IL]) 3 January 2008 (2008-01-03)	5-8, 10-12	
	* paragraphs [0120], [0123], [0128], [0134], [0143], [0155] * * figures 1,5-8 *		
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 19 May 2011	Examiner Olapinski, Michael
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ..... & : member of the same patent family, corresponding document	

4  
EPO FORM 1503 03.82 (P04C01)



EUROPEAN SEARCH REPORT

Application Number  
EP 10 15 7873

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
Y	WO 03/101303 A1 (U SYSTEMS INC [US]; WANG SHIH-PING [US]; RAO FANGYI [US]; CHIN DONALD) 11 December 2003 (2003-12-11) * paragraphs [0222], [0288] * * figures 7,8 *	5-8,11	
Y	----- US 4 943 986 A (BARBARISI LEONARD [US]) 24 July 1990 (1990-07-24) * the whole document * -----	7,8,11	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
Place of search <b>Munich</b>		Date of completion of the search <b>19 May 2011</b>	Examiner <b>Olapinski, Michael</b>
<b>CATEGORY OF CITED DOCUMENTS</b> X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ..... & : member of the same patent family, corresponding document	

4  
EPO FORM 1503 03.02 (P04C01)



Application Number

EP 10 15 7873

**CLAIMS INCURRING FEES**

The present European patent application comprised at the time of filing claims for which payment was due.

- Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):
- No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

**LACK OF UNITY OF INVENTION**

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:
- The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).



**LACK OF UNITY OF INVENTION  
SHEET B**

Application Number  
EP 10 15 7873

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-4

directed to specifications of a coupling of the biopsy device to the ultrasonic diagnostic apparatus

---

2. claims: 5, 6

directed to a biopsy kit-guide

---

3. claims: 7-12

directed to an oblique part and/or upright geometry of the ultrasonic diagnostic apparatus

---

ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.

EP 10 15 7873

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

19-05-2011

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9632066 A1	17-10-1996	AU 694865 B2	30-07-1998
		AU 5390996 A	30-10-1996
		EP 0825833 A1	04-03-1998
		JP 3705816 B2	12-10-2005
		JP 11505446 T	21-05-1999
		JP 2005237976 A	08-09-2005
		US 5660185 A	26-08-1997
		US 5833627 A	10-11-1998
-----	-----	-----	-----
WO 9802095 A1	22-01-1998	AU 3879597 A	09-02-1998
		EP 0926986 A1	07-07-1999
		ES 2334525 T3	11-03-2010
		US 5820552 A	13-10-1998
-----	-----	-----	-----
WO 8302053 A1	23-06-1983	EP 0096039 A1	21-12-1983
-----	-----	-----	-----
WO 2007130526 A2	15-11-2007	US 2010174185 A1	08-07-2010
-----	-----	-----	-----
US 2008004526 A1	03-01-2008	NONE	
-----	-----	-----	-----
WO 03101303 A1	11-12-2003	AU 2003239925 A1	19-12-2003
		EP 1531730 A1	25-05-2005
		EP 2269515 A1	05-01-2011
		EP 2272434 A1	12-01-2011
-----	-----	-----	-----
US 4943986 A	24-07-1990	NONE	
-----	-----	-----	-----

专利名称(译)	集成式超声诊断设备，带有可分离的活检装置		
公开(公告)号	<a href="#">EP2241257A3</a>	公开(公告)日	2011-06-29
申请号	EP2010157873	申请日	2010-03-26
申请(专利权)人(译)	MEDISON CO. , LTD.		
当前申请(专利权)人(译)	MEDISON CO. , LTD.		
[标]发明人	KIM SEONG RAE HYUN DONG GYU KIM CHUL AN PARK HEE JUNG		
发明人	KIM, SEONG RAE HYUN, DONG GYU KIM, CHUL AN PARK, HEE JUNG		
IPC分类号	A61B8/08 A61B10/02 A61B10/00		
CPC分类号	A61B17/3403 A61B8/0825 A61B8/0833 A61B8/0841 A61B2017/3413		
代理机构(译)	SCHMID , WOLFGANG		
优先权	1020090032266 2009-04-14 KR		
其他公开文献	EP2241257A2		
外部链接	<a href="#">Espacenet</a>		

摘要(译)

公开了一种可分离的活组织检查装置集成型超声诊断设备。可分离的活检装置集成型超声诊断装置包括：超声诊断装置（100），其暴露诊断目标（10）的一侧并检查诊断目标（10）的另一侧的诊断目标（10）；活检装置（200）位于诊断目标（10）的暴露侧，并且可拆卸地连接到超声诊断设备（100）。该装置可以一起执行超声诊断和活组织检查，从而提供允许利用单个装置执行超声诊断和活组织检查的便利性，并且可以基于使用超声诊断设备（100）获得的超声图像执行活组织检查而无需改变诊断目标（10）的位置，能够精确地确定要进行活检的位置，即，活检装置（200）的针将插入其中的目标位置。

